

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>A41078M</b>	<b>FOR FURTHER ACTION</b> <small>see Form PCT/ISA/220 as well as, where applicable, item 5 below.</small>	
International application No. <b>PCT/JP2004/004320</b>	International filing date (day/month/year) <b>26/03/2004</b>	(Earliest) Priority Date (day/month/year) <b>26/03/2003</b>
Applicant  <b>MITSUBISHI PHARMA CORPORATION</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box II).

3. ☐ **Unity of invention is lacking** (see Box III).

**4. With regard to the title,**

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

**2, 3, 6-TRISUBSTITUTED -4-PYRIMIDONE DERIVATIVES**

**5. With regard to the abstract,**

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

**6. With regards to the drawings,**

a. the figure of the **drawings** to be published with the abstract is Figure No. \_\_\_\_\_

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

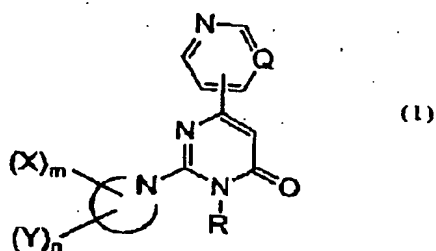
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International application No.

PCT/JP2004/004320

Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)

A pyrimidone derivative having tau protein kinase 1 inhibitory activity which is represented by formula (I) or a salt thereof, or a solvate thereof or a hydrate thereof, useful for preventive and/or therapeutic treatment of diseases such as neurodegenerative diseases (e.g. Alzheimer disease).



wherein Q represents CH or nitrogen atom; R represents a C<sub>1</sub>-C<sub>12</sub> alkyl group; the ring of:



represents piperazine ring or piperidine ring; each X independently represents a C<sub>1</sub>-C<sub>8</sub> alkyl group, an optionally partially hydrogenated C<sub>6</sub>-C<sub>10</sub> aryl ring, an indan ring or the like; m represents an integer of 1 to 3; each Y independently represents a halogen atom, a hydroxy group, a cyano group, a C<sub>1</sub>-C<sub>6</sub> alkyl group or the like; n represents an integer of 0 to 8; when X and Y or two Y groups are attached on the same carbon atom, they may combine to each other to form a C<sub>2</sub>-C<sub>8</sub> alkylene group.

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## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07D239/47 C07D401/14 C07D405/14 C07D409/14 C07D413/14  
C07D417/14 C07D403/14 A61K31/513 A61K31/5377 A61P25/28

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07D A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BEILSTEIN Data, WPI Data, PAJ, CHEM ABS Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 136 482 A (SANOFI SYNTHELABO ; MITSUBISHI TOKYO PHARMACEUTICA (JP)) 26 September 2001 (2001-09-26) cited in the application paragraphs '0002!, '0006!; example 38; tables 1,2,4,8-12 -----	1-16
P,A	WO 03/027080 A (SANOFI SYNTHELABO ; HIKI SHINSUKE (JP); SHODA AYA (JP); ARITOMO KEIICHI) 3 April 2003 (2003-04-03) page 104, line 9 - line 25; claims 1,2,10-25; examples C401-C499,C601-C651,C751-C768,D026-D050 ----- -/--	1-16



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

\* Special categories of cited documents:

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\* & \* document member of the same patent family

Date of the actual completion of the international search

1 July 2004

Date of mailing of the international search report

12/07/2004

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International Application No  
PCT/JP2004/004320

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,A	<p>WO 03/037888 A (SANOFI SYNTHELABO ; HIKI SHINSUKE (JP); SHODA AYA (JP); ARITOMO KEIICHI) 8 May 2003 (2003-05-08)  page 9, line 21 - page 10, line 10; claims 1,2,11-13,15-25; examples C001-C099,C201-C251,C351-C368,C388,D001-D025</p> <p style="text-align: center;">-----</p>	1-16

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No  
PCT/JP2004/004320

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1136482	A	26-09-2001	EP 1136482 A1	26-09-2001
			AU 8148701 A	03-10-2001
			CA 2401241 A1	27-09-2001
			CN 1419552 T	21-05-2003
			WO 0170729 A1	27-09-2001
			EP 1276738 A1	22-01-2003
			JP 2003528095 T	24-09-2003
			US 2003187004 A1	02-10-2003
WO 03027080	A	03-04-2003	CA 2460121 A1	08-05-2003
			CA 2460177 A1	03-04-2003
			EP 1427709 A1	16-06-2004
			EP 1427720 A1	16-06-2004
			WO 03027080 A1	03-04-2003
			WO 03037888 A1	08-05-2003
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			CA 2460177 A1	03-04-2003
			EP 1427709 A1	16-06-2004
			EP 1427720 A1	16-06-2004
			WO 03027080 A1	03-04-2003
			WO 03037888 A1	08-05-2003